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Dissertation Title

**THE ROLE OF AI IN HUMAN RESOURCES
MANAGEMENT: A CASE STUDY IN PHARMACEUTICAL
COMPANIES IN INDIA**

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DECLARATION

I declare that this dissertation has been composed by myself, that the work contained herein is entirely my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or qualification, in whole or in part, except as specified.

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Date: - 03 Feb 2026

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Abstract

The increasing rate of development in Artificial Intelligence has greatly altered organizational activities including human resource management (HRM). This paper discusses how AI can be used to support human resource management in pharmaceutical organisations in India. The pharmaceutical industry is an industry that is known to be regulated, knowledge-based and diverse in terms of workforce. The study will examine the impact of AI-based HR practices on workforce management, human-related outcomes and HRM alignment. The research philosophy is that of an interpretivist and is a qualitative case study using secondary sources of data. Peer-reviewed academic literature, industry reports, organisational publications and reported case studies on Indian pharmaceutical firms were used to gather data. The thematic analysis was facilitated by an inductive approach that allowed identifying repetitive patterns and situational information about the use of AI in HRM.

The results show that AI has a wide range of applications in the business of core HR practices such as recruitment and selection, performance management, workforce analytics, learning and development and employee engagement. The HR system based on AI is efficient at working, facilitates the use of information to make the right decision and helps to plan the workforce. Specifically, predictive analytics and customised learning systems help to enhance skill formation and organisational resiliency. The study however reports that there are also serious challenges including high implementation costs, ethical issues, threats to data privacy, algorithmic biasing and employee attitudes towards job insecurity that affect the perception of AI -based HR practices. The research also finds that AI is important in the alignment of HRM with organizational strategy and making HRM more strategic. However, successful AI implementation demands ethical regulations, cultural awareness and integrity and long-term human supervision. The study also adds to the literature as it gives a context-specific narrative of AI-infused HRM in the Indian pharmaceutical industry and practical implications to organizations that aim at balancing technological innovation with people-focused HR activities.

Keywords: *Artificial Intelligence (AI), Human Resource Management (HRM), Pharmaceutical Industry; Strategic HRM Alignment; Workforce Management, Organisational Outcomes, Ethical AI; Digital Transformation*

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CHAPTER 1: INTRODUCTION

1.1 Background & Problem Statement

1.1.1 Background

Artificial Intelligence has also been applied to the management of the human resources, and this case can be exemplified by the example of the pharmaceutical firms in India which extensively utilize AI in the HRM. One can say that the integration of “artificial intelligence” within the human resources management has scaled up the global operations of the different multinational companies. The pharmaceutical industry in India is one of the most lucrative and busy business sectors that generate massive income through foreign business and so requires effective human resources management within the company to handle the customers. The strategy has helped the Indian pharmaceutical firms like Dr. Reddy, Cipla and Biocon to effectively systematize their business processes in a manner that they are able to acquire competitive edge in the global market (Rajni *et al.*, 2023). The human resources management has employed the “artificial intelligence” tools to make the cross-country business processes smooth.

The AI tools can be deployed in a variety of purposes including to augment the decision-making power of the HR managers to address sophisticated business issues, greater transparency in the supply chain management and streamlining of recruitment. The established Indian pharmaceutical firms operating in the global industry must co-operate with different members of the team that belong to different cultural backgrounds and the AI tools employed complement the cross-cultural interaction between the team members. Thus, it can also be said that the use of AI tools in the human resource management such as translation systems and chatbots is responsible for flexible communication among the team members of the Indian pharmaceutical companies and with their global clients and customers. Thus, this study has been used to discuss the various aspects of use of AI tools to improve HRM in the pharmaceutical companies of India.

1.1.2 Problem Statement

The pharmaceutical companies in India apply the best human resources practices and make use of “artificial intelligence”-based tools in the human resources management but due to limited understanding of the tools, the companies cannot gain the maximum benefits. Thus, this poor

knowledge of the AI tools hampers the global HR processes of the Indian pharmaceutical companies, and the proper execution of the business strategies fails to occur (Sudha and Vardhini, 2024). The HR practices adopted by the pharmaceutical companies in India is quite effective and better than the other related sectors, but this is only limited to the domestic aspect which means the business processes within the country.

The management of the global workforce is quite crucial for the pharma companies of India to gain a strong brand in the market, and this can be achieved with the proper implementation of the “artificial intelligence” based tools in the internal human resources management. The employees of the HRM department of the Indian pharmaceutical companies fail to employ the right strategies to utilize the tools of artificial intelligence reasonably and it leads to the lack of success in communication with global clients and investors. This aspect of implementation of the AI tools also implicates the recruitment and training sessions and the performance measurements of the employees of the HRM thereby impacting negatively on the global business.

Most pharmaceutical companies in India do not have the infrastructure required to implement the AI tools and the top management of the HR is comparatively hesitant to receive a change in the HRM settings. This is because they lack the knowledge of the worth of the use of AI tools in the HRM to enhance the global business processes (Goswami *et al.*, 2023). Therefore, it could be concluded that this question should be considered to conduct this research to study how the application of the AI tools applied in the IRHM accelerates the business processes of the Indian pharmaceutical companies and gives them a competitive advantage in the world market.

1.2 Research Aim

This study aims to investigate the role that “artificial intelligence” plays in improving HRM practices of pharmaceutical organisations in India by examining the extent to which AI technologies affect recruitment, performance management, training and cross-cultural workforce exchange in a global context.

1.3 Research Objectives

- To analyse the implementation of “artificial intelligence” in key human resource management practices namely recruitment, performance management and employee training in Indian pharmaceutical firms.
- To identify the key advantages and challenges related to adopting AI technology within HRM functions in the Indian pharmaceutical industry.
- To examine the implications of AI in regard to managing the global workforce in relation to areas such as global talent recruitment, cross-cultural communication and employee engagement in pharmaceutical firms.
- To develop recommendations for the appropriate and ethical application of AI in HRM to promote organisational performance and competitiveness on a global scale within the Indian pharmaceutical industry.

1.4 Research Questions

- How is AI being implemented across key HRM functions namely recruitment, performance assessment and employee development in Indian pharmaceutical companies?
- What are some of the primary benefits and challenges the pharmaceutical firms in India face when incorporating AI technologies in their HRM practices?
- How does AI impact global workforce management including talent acquisition, cross-cultural communication and employee engagement within pharmaceutical organisations that operate?
- What inspired strategic recommendations may be developed towards improving the appropriate and ethical application of AI in HRM to increase the global competitiveness of the Indian pharmaceutical sector?

1.5 Significance / Relevance of Study

This research is significant and quite relevant for the “Indian pharmaceutical industry” since the findings of this study has been helpful to bridge the gap between the domestic HRM practices and the approaches. The findings have further enhanced the limited understanding of the HR managers of the Indian pharmaceutical companies about the use of “artificial intelligence” based tools in the “human resources management”. This has also enhanced the business operations and ensure flexible communication between the pharma companies and the

global clients and investors (Kulkov, 2021). As the Indian pharmaceutical companies work with various foreign investors and they aim to gain a valuable reputation in the global market, the integration of AI in the HRM has be quite crucial in the business processes such as employee recruitment, enhance decision making capabilities of the HR managers and increase transparency in the supply chain management.

Furthermore, this study remains relevant as “artificial intelligence” is extensively used in the other sectors of India and as the pharmaceutical industry is rapidly growing, it must also incorporate the use of “artificial intelligence” tools in the business processes. This study has provided valuable insights about the benefits and the demerits of the use of “artificial intelligence” in the “human resources management” and thus with the help of this information, the Indian pharmaceutical companies has been able to plan out the strategic use of the AI tools. Lastly, it can be said that this research has remain as a benchmark for the future studies which has be conducted on the use of “artificial intelligence” in the HRM of the Indian pharmaceutical companies.

1.6 Brief Research Methodology

The research methodology adapted for this paper is the qualitative research method which has been used to analyse the role of “artificial intelligence” in the “human resource management” in the “Indian pharmaceutical companies”. The research philosophy is interpretivism as the findings of the existing studies has been interpreted to draw findings for this current study. The “subjective interpretation” and the critical analysis of the existing literature have highlight on how the use of AI can be done properly with the help of strategies in the Indian pharmaceutical industries. The interpretivism philosophy is also justified as the critical views of the HR managers and the effect of AI on their decision-making capabilities can be analysed with the help of the previous studies.

The research approach of this study has been inductive in nature such that theories can be developed on the basis of the information gained from the previously published literature instead of testing hypotheses. With the implementation of this approach, valuable findings can be gained which has highlight the “impact of the AI technologies on the HRM practices in the Indian pharmaceutical industry”. The “research design” is explanatory as the findings of the existing studies has been explained to draw concepts about the implications of AI in the human resources management.

This research is qualitative and has been completely based on the collection of secondary data (Lochmiller, 2021). The various sources of data collection have been “peer reviewed journal articles, company reports, case studies and government websites and industry white papers based on the Indian pharmaceutical companies”. Lastly, thematic analysis has been used for the interpretation of the data collected from the published literature. This approach has been helpful to completely explore the various aspects of the use of “artificial intelligence” in the “human resources management” of “Indian pharmaceutical companies”. The expected time required for this project is 12 to 13 weeks.

1.7 Structure of rest of project



Figure 1: Structure of rest of project

(Source: Self-developed)

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Artificial intelligence (AI) is one of the significant modern tools that have taken place in the modern human resource management (HRM). AI has altered the way organisations sustain and develop human capital. AI can be defined as the application of innovative computation systems that have an ability to learn and analyse vast amounts of data in order to assist or replace decision-making activities (Sarker et al. 2021). In the context of HRM, AI-based solutions, including machine learning algorithms, predictive analytics, natural language processing, and robotic process automation, are implemented in the HR processes. The technologies will enable organisations to become much efficient in their operation, reduce the human biases, and generate data-driven insights to make strategic human resource decisions. AI is indeed required in the pharmaceutical sector, which is a highly competitive industry. The current study shows that major Indian pharmaceutical companies are adopting more AI-enabled HR systems. For instance, Sun Pharma uses advanced communication and collaboration platforms to manage teams from diverse cultural backgrounds (Sunpharma., 2024). Indian pharmaceutical companies have to deal with continuously in order to get more desired outcomes.

The main issues the firms are facing right now are lack of talent, compliance to the regulations, diversity of the work force, and the necessity of constant upskilling. As the industry is increasing its international presence, HR functions must know how to handle complex organisational structure while maintaining consistency. AI offers a chance to streamline HR operations by automating the repetitive procedures and facilitating the use of evidence-based strategic decisions. Many organisations including Cipla, Biocon, and Sun Pharma have introduced the use of AI recruitments, workforce analytics, performance management, and learning and development programs. These practices indicate a more general transition between administrative HR functions into strategic HRM. Moreover, human resource practitioners are interested in talent management, development in leadership capacity, and organisational culture. The technology acceptance model (TAM) is a helpful theoretical framework to interpret this study as it shows how it can lead to the acceptance of AI technologies in the organisational context. This review has determined the overall debates, advantages, disadvantages, and gaps in research to support more empirical studies by synthesizing current research, organisational case studies, and theoretical frameworks.

2.2 AI Integration in Human Resource Management Functions

The introduction of artificial intelligence (AI) into the activities of the human resource management functions has greatly transformed the HR environment of the Indian pharmaceutical firms. Recruitment, performance management, workforce analytics, and employee communication are gradually improving AI technologies that allow HR departments to shift their focus towards more strategic functions instead of focusing on transactional tasks. The existing literature demonstrates that AI-based HR solutions have the potential to enhance the process of decision making by organisations since they transform the way organisations address their human capital (Madanchian et al. 2023). Another sphere of AI application and implementation is the pharmaceutical industry, which was applied to transform performance management and workforce analytics. The AI-based applicant tracking systems and the resume-screening algorithms can help pharmaceutical companies to filter through numerous applications to reduce time-to-hire. Dr. Reddy's Laboratories have launched AI-based recruitment systems which apply predictive analytics to align the qualifications of applicants with the job (Financialexpress.com. 2024). This has enhanced the accuracy and consistency of the hiring process.

Theoretically, the Technology Acceptance Model describes why this adoption is gaining momentum. In contrast, the HR professionals has use AI systems more when they understand these systems are helpful and easy to use. Nevertheless, the use of an algorithmic recruitment process can strengthen the existing biases unintentionally. The pharmaceutical industry is another area where AI is integrated and has been used to revolutionize performance management and workforce analytics. AI dashboards help to see the real time data of the employee productivity, level of engagement and performance. The case of Cipla implementing predictive workforce analytics using AI which is used in improving data-driven performance and to determine the future leadership potential (cipla.com. 2024). Through these systems, the HR managers can make proactive decisions on promotions, training and succession planning. However, a study shows excessive dependence on AI can potentially ignore the contextual and behavioural variables (Rezaei *et al.* 2025). Another major HR activity that has been improved by the implementation of AI is learning and development. The pharmaceutical business is characterized by a high level of scientific development and regulations.

However, constant training of employees is an essential part of the process. Learning management systems developed by AI companies such as Biocon offer personalised learning

paths depending on the roles of employees, their performance data and skills gaps (Biocon, 2025). Strategic HR goals are aligned with such systems as the workforce capabilities are ensured to be in line with organisational goals. Nevertheless, the current studies emphasize that the high level of automation of learning processes can lead to the reduction of the informal learning and mentorship opportunities, which are essential in the development of leadership potential. Besides improving the efficiency of its operations, AI integration ensures strategic HR alignment.

2.2 Benefits and Challenges of AI Adoption in the Pharmaceutical Sector

The integration of artificial intelligence within the human resource management has created enormous value to the pharmaceutical firms in India. Proper use of these tools improves operational performance, worker involvement and strategic decision making. The pharmaceutical industry is a knowledge based and extremely regulated sector. Hence, it needs HR systems which are capable of handling complex structures of the workforce. It also requires a system that does not compromise the compliance and maintain consistency in performance. Thus, AI has become one of the strategic instruments that can provide efficiency as well as long-term competitiveness.

Operational efficiency among the most popular advantages of AI adoption in HRM. The time-consuming tasks performed by the HR in AI systems are automated, including payroll, documentation, attendance, and the routine worker inquiries. Research suggests that automation helps to decrease the amount of administrative work, and HR specialists can redirect their efforts to more strategic working areas such as leadership development and workforce planning (Nelson *et al.* 2024). Indian pharmaceutical companies such as the DR. Reddy Laboratories have used AI-based analytics to make the process of hiring a lot easier.

Such productivity fits the Resource-Based View (RBV), where AI is a valuable organisational resource, and its successful combination with the human capital and the organisational capabilities has improve the performance of firms. Data-driven decisions can also be regarded as another significant advantage of AI adaption. The AI-based HR analytics allow pharmaceutical organizations to understand the trends in the workforce, forecast employee turnover, and determine the performance of training, based on real-time data.

In accordance with the research on AI-based insights, Tummalapalli et al. 2025 imply that the HR decision-making process is more precise and objective. The predictive workforce planning

solutions have been adopted by many firms to predict the future talent requirements and align the HR initiatives to the market requirements. Predictive HR analytics can help companies foresee the workforce requirements, manage talents more efficiently, and engage the staff better (Kalusivalingam et al. 2020). Such capabilities are valued most in such a sector as the pharmaceutical industry. AI also enhances the level of engagement and development achieved among the workers by offering them personalised learning process and career growth opportunities. The use of AI-based learning management systems underlines that one can eliminate personal skill gaps by using personal training programs. Such systems can be helpful in the exchange of knowledge among subsidiaries and facilitate training in any type of regulatory environment.

Although there are several advantages, adoption of AI in HRM has serious issues in the Indian pharmaceutical environment. The most challenging obstacle is the cost of AI implementation and maintenance which is extremely high. The development of sophisticated AI systems not only consumes a lot of money but also needs highly qualified professionals and well-developed digital infrastructure. Rana et al. 2022 state that AI-BA opacity triggers suboptimal business decisions and a higher perceived risk including technology and security risk. Another issue of concern is associated with data governance, privacy, and ethical concerns. HR systems based on AI are dependent on employee data such as performance, behavioural predictors and personal detail. The growing application of AI in HRM can result in the development of job insecurity perceptions, which has reduced trust and engagement.

2.3 Impact of AI on Workforce Management and Integration

The influence of artificial intelligence on the workforce management and integration in the Indian pharmaceutical companies is transformative. Moreover, it can influence the operation of the company, as well as the strategic alignment of the human resources. Besides administrative automation AI assists the HR leaders perceiving the workforce, cross-culture operation and predictive talent management. The AI-driven efficient management helps organisations in technological and market environments dynamically, which is vital in the pharmaceutical industry. The labour market is highly dependent on qualified human capital and the need for compliance standards (Sergeeva *et al.* 2021). Workforce planning and predictive analytics can be considered one of the most significant effects of AI. Systems based on AI have the capability to predict labour shortages, training needs, and performance patterns across subsidiaries. For instance, Sun pharma's tools allow the organization to have

geographically consistent evaluation and workflow management in each region (Sun Pharma, 2024).

2.4 Strategic HRM Alignment and Organisational Outcomes

The incorporation of artificial language in human resource management has major implications on strategic HRM alignment. AI has given HR leaders with solutions to direct the workforce management choices to the organisational strategy. This ensures that the human capital is at the service of operational requirements and long-term strategic requirements. Intelligent recruitment systems can also evaluate the suitability of candidates. Moreover, behavioural trends and predictive performance indicators enable companies to recruit and retain employees. The logical way of doing things minimises the differences in the workforce performance and the strategic needs.

AI also improves the performance management and employee engagement. On the other hand, individual contribution is tracked and rewarded according to the organisational goals. Predictive analytics discover high performers, which reduce the risk of leaving the company and ensures a better workforce. Moreover, systems of learning and development using AI also align the skills of employees with the changing needs of the organisation (Drewniak *et al.* 2020). In contrast, AI streamlines strategic HRM alignment helps to enhance efficiency of operations, employee commitment and sustainable competitive advantage in the Indian pharmaceutical industry. But an important factor is excess use of algorithms in the decision-making process can cause cultural misfit, detachment, or ethical issues.

In addition, strategic HRM alignment with AI requires the combination of the human judgement and relevant algorithmic insights. Although artificial intelligence-powered systems increase the accuracy and uniformity of HR decisions, their use potential is important when they are accompanied by a managerial control mechanism and understanding of the situation. The strategic HRM alignment must have balanced approach in the Indian pharmaceutical industry where regulatory compliance, intensity of innovation and ethical consideration are of high importance.

The extent of trust, transparency, and inclusivity of the workforce may be compromised through excessive dependence on automated decision-making. In order to maintain responsible utilisation of HR technologies, organisations need to develop the ethical AI governance frameworks and well-defined mechanisms of accountability. Along with that, there is a need

to have cross-functional alignment between the HR, operations, and technology groups that can transform AI-derived insights into action plans. AI-enhanced strategic HRM can be both operationally efficient and organisational agile and resistant and can facilitate the pharmaceutical firms to grow promptly to the changes in the environment, as well as is capable of enhancing long-term organisational performance when it is effectively governed.

2.5 AI-Driven Talent Management and Workforce Planning in Pharmaceutical Organisations

Artificial intelligence (AI) is also beginning to revolutionise talent management and workforce planning in pharmaceutical organisations in India, where the agile human resource strategies are required by skill intensity, complexity of regulations and swift innovation. Companies are able to abandon reactive HR as well as to make predictive and data-driven decisions in talent acquisition, workforce forecasting and capability building with AI-based systems. Intelligent recruitment and skills-matching AI tools are quite popular in talent management. The Indian drug manufacturing companies such as Dr. Reddy Laboratories and Sun Pharma have adopted AI-enabled candidate tracking systems to sift through extensive lists of resumes, reduce recruitment bias and locate candidates possessing specific bioinformatics, regulatory services and clinical research expertise.

Goswami *et al.* (2023) reported that the introduction of AI into the Indian pharma HRM enhances precision and time-to-fill in hiring based on the use of machine learning algorithms that are trained on past hiring and performance data. Saeed *et al.* (2025) also point out that optimisation platforms based on AI has integrate performance metrics, learning competencies, utilise them to support individualised career paths and succession planning across healthcare & pharmaceutical settings. Predictive analytics models help organisations to forecast the demand of the workforce based on the R&D pipelines, manufacturing growth and market entry strategies.

Yanamala (2024) explains that with AI-based workforce forecasting, it is possible to plan scenarios with a look at the data of the variables such as the rate of attrition, project schedule and regulatory approval process cycle. An example of this is Cipla, which has previously been leveraging analytics-driven workforce planning to foresee any skill shortages in biologics production and take a proactive role in investing in upskilling initiatives to match human capital with the long-term business objectives.

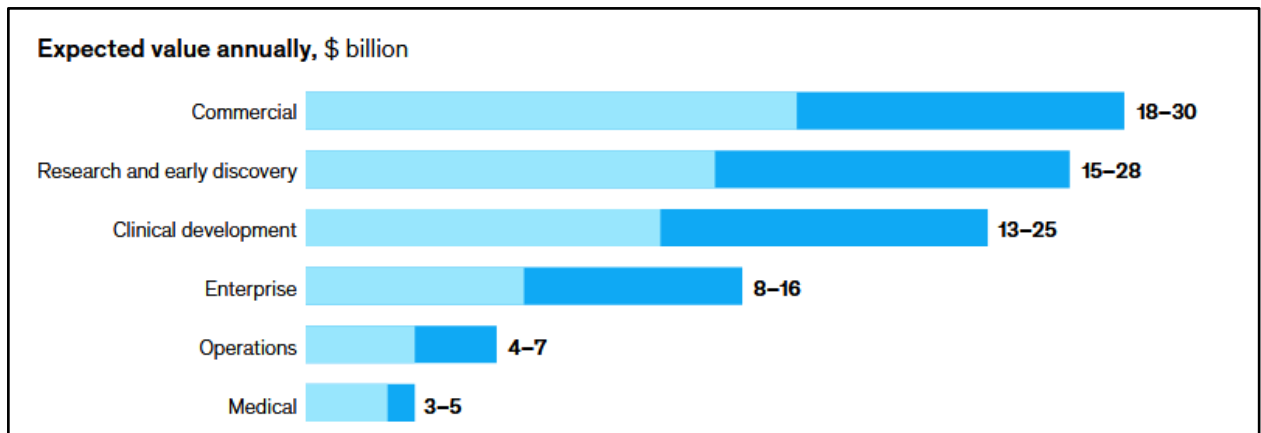


Figure 2: Generative AI within pharmaceutical sector

(Source: Viswa *et al.* 2024)

AI helps in internal mobility and learning and development (L&D) as well. Generative AI technologies suggest tailored training programs to scientists, quality assurance experts and salespeople depending on the needs of their jobs as well as areas of gaps in performance. Saini *et al.* (2025) conclude that the operational capabilities including workforce capability optimisation, which originally were facilitated by AI innovations created to aid in drug discovery are being reused. Tacit knowledge can be applied through the combination of AI and knowledge management systems to allow pharmaceutical companies to reduce the importance of the expert (Mahmoud *et al.* 2025). This is in line with the Human Capital Theory where AI is considered as a strategic instrument to improve the skills of employees, their productivity and the long-term value of the organisation by investing in workforce using data.

Strategically AI improves human resource decision-making through workforce data integration into enterprise risk and opportunity analysis. Stephen (2025) claims that the AI-driven dashboards can assist the leadership in the trade-offs of the investments in talent versus the project risks in biopharmaceutical programs. According to McKinsey, the real value is realised when AI initiatives are connected to the organisational culture and data governance as well as ethical HR practices (Viswa *et al.* 2024) [refers to figure 2]. Therefore, AI-based talent management and workforce planning are causing Indian pharmaceutical organisations to have resilient and future-adjustable work forces capable of perpetuating innovation as well as global competitiveness.

2.6 Significance of Employee Experience, Engagement, and Well-being in Pharmaceutical Companies

Employee experience, engagement and wellbeing are also essential factors in organisational performance in pharmaceutical firms mainly in India where high work pressure compliance with regulations and competition for skilled employees. These human elements have become even more significant as organisations seek to establish balance while ensuring that efficiency in technology does not affect workforce sustainability as more firms adopt AI in HRM (Ardelt and Sharma, 2021). Employee experience (EX) is the aggregate perception of employees with regard to recruitment, work design, performance management and career development. It has been demonstrated that positive EX directly affects work engagement and employee well-being is a significant mediator of the relationship (Özçınar *et al.* 2024). Pharmaceutical companies such as Novartis India and Pfizer India can use AI-enabled HR applications to customise learning journeys, facilitate intra-organisational communication and deliver instant feedback to employees which makes them feel valued and included. These programs lead to psychological welfare which consequently enhances activities and dedication.

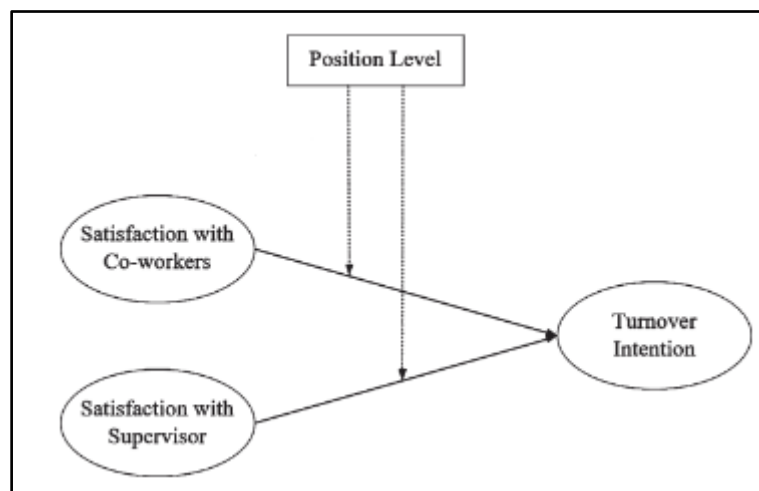


Figure 3: Factors associated with employee engagement

(Source: Wen *et al.* 2022)

Engagement by the employees is critical mostly in the pharmaceutical industry where the success of innovation, quality assurance and patient safety are largely determined by attentive employees. As Rajashekar and Jain (2024) point out, the essence of sustaining engagement is holistic well-being programs such as mental, physical, social and career well-being programs

that is essential in the industry with high knowledge. Indian pharmaceutical companies including Dr. Reddy's Laboratories have launched AI-driven well-being dashboards and digital wellness programs tracking trends in workload as well as alerting of burnout which can be used to take proactive HR measures. Well-being also is important in minimising turnover intention which has been an issue in the pharmaceutical industry. Wen *et al.* (2022) prove that elevated employee satisfaction and engagement can considerably reduce turnover intentions depending on the level of position [refers to figure 3].

2.7 Role of Management and Organisational Readiness in Achieving Market Advantages by Pharmaceutical Companies

The role of management capability and organisational preparedness is crucial in making pharmaceutical companies gain sustainable advantages in the market with the AI-based HRM and digital transformation in India. Leadership commitment, strategic foresight and hasingness to change are the key factors defining the ability of organisations to use technological adoption effectively (Masrianto *et al.* 2022). The antecedents of competitive advantage are organisational resilience and foresight, which are largely founded on strategic leadership. Fathi *et al.* (2021) confirm that the positive impact of organisational resilience and strategic foresight on the firm's performance is an intermediate variable.

Examples of Indian companies that have adopted this include Dr. Reddy Laboratories which have made AI-driven workforce planning be consistent with long-term R&D and international expansion plans. The commitment of the top management is also essential in successful implementation of the advanced technologies. Tetteh *et al.* (2024) note in their Pharma 4.0 study that the variables that may create the difference between effective and ineffective lean and digital programs are the support of the leadership, cross-functional coordination and investment in the capabilities of employees.

Along with that, organisational preparation is not merely the intention of the leadership but structural alignment, the digital culture, and the capability development of employees. The pharmaceutical companies that entrench AI-based HRM into their organisational practice are in better places to convert technological investments into market benefits. Preparedness can be observed through the use of adaptive governance systems, data-driven decision-making systems and processes of constant learning that can be applied to enhance innovation. The operating environment of the companies in the pharmaceutical sector of India is highly

regulated and innovation-intensive and, therefore, the company must establish the initiatives of digital transformation with strong change management practices.

The ability to implement AI can be greatly undermined by resistance to change, skills differences, and a piecemeal approach. Research indicates that organisations that have active talent reskilling initiatives and effective communication plans have easier digital transformation and outperform others (Masrianto et al., 2022). Therefore, the management competence and organisational preparedness is viewed as major facilitators that bridge the gap with the perceived competitive advantage and realised competitive advantage with the strengthening of strategic relevancy of leadership-based preparedness in achieving the sustainable market presence.

2.8 Theoretical Underpinnings

This position of AI in Human Resources Management in Indian pharmaceutical firms can be solidly presented using several theoretical viewpoints that are supportive. The combination of human capital theory, social exchange theory, resource-based theory and the cultural dimensions theory offered by Hofstede has a solid ground in explaining the contribution of AI-based HR practices to organisational performance and competitive advantage. The Human Capital Theory prioritises knowledge, skills and competencies of employees as key assets that increase productivity and performance of the organisation.

Pi *et al.* (2021) show that the performance of human capital fluctuates through the levels of organisations in pharmaceutical companies and it is reinforced by relational capital which reminds about the significance of organised talent management procedures. Comparatively, Festa *et al.* (2021) demonstrate that intellectual capital which includes the human capital as one of its fundamental elements has a prominent role in the financial stability of the Indian pharmaceutical companies. The personalisation of learning through AI, prediction of skills gaps and succession planning are all direct applications of the Human Capital Theory as they provide maximum returns on workforce investment.

The Social Exchange Theory (SET) is used to explain employee behaviour in the form of a reciprocal relationship between employees and organisations. Employees react to the supportive HR practices by their organisation by being more engaged and committed and show lower turnover. According to Tsen *et al.* (2022), supportive work practices based on social

exchange minimise turnover intentions especially in cases where employees feel fairness and organisational support.

Trust is built around AI-based feedback systems and employee experience platforms used in Indian pharmaceutical companies and enhances mutual employee commitment. Resource-Based Theory (RBT) places sustainable competitive advantage as a result of valuable, rare, inimitable and non-substitutable resources. Santos *et al.* (2025) underline that costly intangible asset such as talent, knowledge and data capabilities on which the creation of value in RBT in the pharmaceuticals depends. Barney *et al.* (2021) also suggests that companies that use special organisational capabilities are more successful than their competitors. The capabilities of AI-enabled HRM are augmented by implementing analytics, institutional knowledge and decision intelligence into the HR processes and thus workforce capabilities are hard to imitate.

The Cultural Dimensions Theory of Hofstede gives cultural background to the adoption of AI in Indian pharmaceutical organisations. Indian organisational culture with high power distance and collectivism has an impact on leadership style, communication and acceptance of AI systems by employees. According to Spânu (2024), the result of HR innovation in pharmaceuticals is substantially influenced by the organisational culture and leadership. Pawar *et al.* (2022) also show that transformational leadership has a positive impact on the organisational culture of pharmaceutical companies in India which allows introducing AI-based HR practices more easily. The theories describe the way AI in HRM promotes the human capital, employee-organisation relationships, strategic resource development and how it should fit the cultural realities in merging towards sustainable competitive advantage in Indian pharmaceutical firms.

2.9 Research Gaps

Although there is an increasing literature on the application of artificial intelligence in the human resource management field, there are a number of research gaps that are critical especially in the Indian pharmaceutical industry. The literature available has largely been centered on AI use in HRM in the developed economy or in the broad economic sectors with little regard to sector dynamics and situational factors of emerging markets such as India. High regulatory pressure, scientific intensity, workforce diversity in the region and high compliance requirements are the features of the pharmaceutical industry of India, but there is little empirical research on the functioning of AI-based HR practices in such a complex environment. The first

area of a gap is the contextual implementation of AI-HRM frameworks. Although other models such as Technology Acceptance Model (TAM) and the Resource-Based View (RBV) are commonly quoted, there is no research available combining these theories together and in specific industrial environments.

Specifically, there has been a lack of focus on the relationship between the perceived usefulness, ease of use and strategic resource capabilities in influencing the results of AI adoption in HRM in pharmaceutical companies. In addition, the power of national and organizational culture, particularly in such a culturally diverse nation as India, has not been explored extensively. Although it is also relevant to assess the acceptance of AI technologies by the employees and the ethical application of AI technologies. The other gap of importance is in human-focused implications of AI in HRM. In the current literature, there is a strong focus on efficiency benefits, automation and analytics-based decision-making whereas relatively less focus on employee perception, trust, job security issues and ethical implications of AI-based HR systems. The over-use of algorithmic decision-making in the Indian pharmaceutical setting where human experience and tacit knowledge are critical to research, development and quality assurance, the issue is not sufficiently covered in the existing research.

2.10 Conceptual Framework

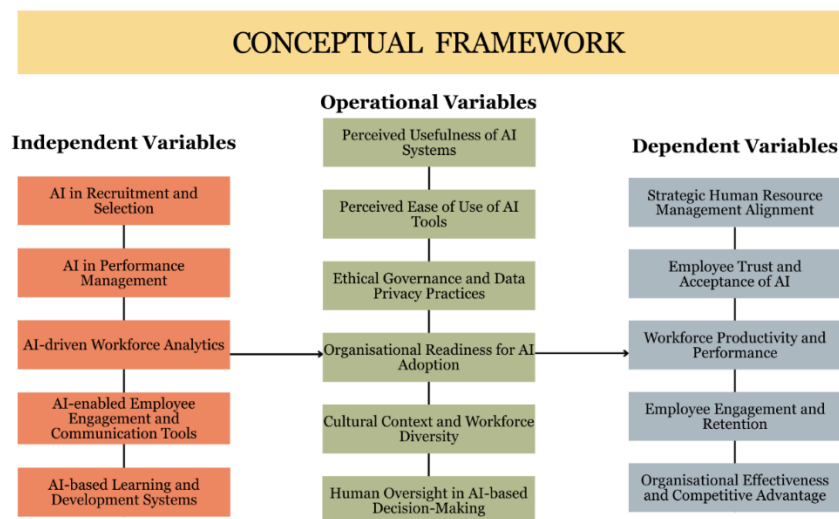


Figure 4: Conceptual Framework

(Source: Self-developed)

2.11 Chapter Summary

This chapter has outlined to a large extent the available literature on the role of artificial intelligence in human resource management using special reference to pharmaceutical firms operating in India. It has started by discussing the adoption of AI in the major HR processes such as recruitment, performance management, workforce analytics, learning and development as well as employee engagement. As noted in the literature, AI-based HR systems can be used to improve the efficiency of operations, facilitate decision-making based on the data and aid strategic planning of the workforce in highly regulated and knowledge-intensive settings such as pharmaceuticals. The chapter also examined the advantages and issues related with the use of AI in HRM. Theoretical concepts such as Technology Acceptance Model, the Resource-Based View and the Cultural Dimensions Theory have been combined to offer a solid conceptual framework in explaining the use and application of AI-HRM and its results. In conclusion, the chapter explored the major gaps in the research, attempting to show the absence of context-specific qualitative research used to understand AI-based HRM practices in Indian pharmaceutical companies.

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Introduction

This chapter describes and explains the qualitative method to determine the role of artificial intelligence in human resource management in the Indian pharmaceutical companies. The qualitative method utilizes various empirical materials, such as case studies, life experiences, and stories, to explore the in-depth meaning and motivations behind routines and problems individuals face, which cannot be defined by numbers (Drewniak *et al.* 2020). The main purpose of the research is to investigate the role of artificial intelligence in workforce management, the alignment of strategic HR, and organisational integration within the Indian pharmaceutical industry. Authentic scholarly sources, industry reports, corporate reports and policy documents are the core of the data set used in this research. Secondary qualitative data would be appropriate especially because of the strategy and sensitivity of HR practices within pharmaceutical organisations where primary data might be limited. Thematic analysis is used as the main tool of analysing the collected data. This approach can assist the recognition of repetitive patterns on a systematic basis (Ahmed *et al.* 2025). Moreover, it analyses the conceptual themes, which increases the credibility as well as the analytical clarity of the result. Moreover, ethical implications in the research guarantee academic honesty, clarity and accountable interaction with current knowledge.

3.2 Research Philosophy, Approach and Design

3.2.1 Research Philosophy

The study of artificial intelligence and its application in human resource management, philosophical positioning is crucial. It is significant as AI systems are socio-technical and they are able to interact with human decision making. The research philosophy is based on the interpretivist research philosophy. Additionally, this philosophy is in line with the qualitative and inductive orientation of the research. In the practice of HR management it cannot be designed, implemented, and interpreted without the involvement of people. Although when it comes to the Indian pharmaceutical companies, AI based HR systems focuses on organisational structures, regulatory contexts, and cultural standards. Moreover, AI influences workforce management, employee engagement, and strategic HR alignment differently. To comprehend the way AI changes HRM, one has to be involved in interpretations, meanings, and stories presented in the academic literature, organisational reports, and industry analyses. Instead of

the causal laws and predictive models, the research intends to build a contextual interpretation of AI-based HR practices.

Such an epistemological position correlates with the interpretism because it puts more emphasis on understanding statistical generalisation. Moreover, it gives insights through close interpretation of qualitative data. The understanding of interpretism focused on social phenomena which align with qualitative research methods (Ali *et al.* 2021). The Indian pharmaceutical industry can be characterized as a dynamic regulatory environment and a diverse workforce setting. Here institutional pressures, leadership values, and socio-cultural expectations determine the HR decisions in the industry. On the other hand, a positivist research philosophy deals with hypothesis testing and measuring variables (Ali *et al.* 2024). Although positivism can be used to investigate the results of technological performance or efficiency, it does not focus much on human experiences. Since this study aims to examine the perceptions, interpretation and organisational meanings, an interpretivist approach offers a more methodologically consistent position. In addition, an inductive research method is also taken in the study, which also supports the philosophical positioning of the study. The inductive approach is generally associated with qualitative research and can be used to systematically analyze qualitative data by reading and digesting the information to make sense of the whole set of data (Kumar *et al.* 2024). In the case of India, an inductive approach has enabled the research to produce conceptual insights that reflect emerging practices and organisational reactions to the integration of AI.

3.2.2 Research Design

Research design offers a systematic approach that directs the process of conducting a study. A well-chosen research design is used in the current study exploring the role of artificial intelligence in human resource management in Indian pharmaceutical firms. Qualitative, explanatory research design is selected as the research aim is exploratory and interpretive in nature. The design allows the study to test the presence of AI-based HR practices as well as the mechanisms. The qualitative research design is considered to be the best suited in this study as the effects of AI on HRM goes beyond quantifiable results. The implementation of AI in the human resource activities such as recruiting, managing performance and employee engagement has ethical considerations, and cultural responsiveness. Quantitative designs are effective when performance indicators fail to capture these subtle dimensions.

On the other hand, qualitative research presents the opportunity to explore organisational stories, strategic purposes, and situational forces. The research also uses descriptive research design to answer the question in HRM. Explanatory research is applicable where the aim is to comprehend a casual process. Explanatory design helps the study analyse the presence of AI technologies in the HR structure and motivates the organisation to implement AI-enabled practices in the context of Indian pharmaceutical companies. The selected research design is comparable with the research philosophy and inductive research approach used in interpretivism research. The qualitative illustrative design incorporates all these factors to see how insights develop through a critical analysis of secondary sources of data. This methodological consistency enhances internal consistency and reliability of the study. The research design has been grounded in the secondary qualitative data analysis, such as journal articles, company reports and industry white papers and governmental publications and documented case studies, covering the adoption of AI in Indian pharmaceutical companies. The secondary data is suitable due to the confidentiality and strategy of the HR practices in pharmaceutical organisations.

3.2.3 Research Approaches

The research approach outlines the logical flow of data observation to developing or testing the theory in support of the study structure on the role of AI in HRM in Indian pharmaceutical firms. It combines philosophy and design, ensuring balance with methodological consistency. The inductive process is useful for the emergence of generalisation and theory-making from specific observations, in order to start with data collection and advance toward a conceptual abstraction (Kumar and Ujire, 2024). It is concerned with finding patterns among qualitative data to build new knowledge. This leads to creativity, suits complexity in social contexts, and creates context-specific knowledge that can be applied to niche industries such as Indian pharmaceuticals. Inductive reasoning also holds significance with interpretivism paradigms, where it can be used to deeply and intricately understand human-technology interaction without unalterable structures (Proudfoot, 2023).

The selection of the inductive approach is also consistent with the interpretivism philosophy, explanatory design, and secondary data methodology of a qualitative nature (Yuwono and Rachmawati, 2023). It effectively synthesises observations made in peer-reviewed journals, company reports, case studies, government publications, and industry papers to reveal replicated patterns in the AI development in HR functions-including the robotisation of the

recruitment process, performance analytics, engaging employees, and cultural adaptation. The deductive approach was not chosen since it explains existing theories by formulating and testing them, especially optimised for quantitative studies (Pacheco-Romero *et al.* 2021). Along with that, the abductive method, which combines the benefits of both inductive and deductive methods to conclude the best explanation of particular observations, was also avoided (Janiszewski and Van Osselaer, 2022). Therefore, the inductive strategy ensured allocation of sufficient data across high-end technological development, which operationalises transformative HRM dynamics of AI in Indian pharmaceuticals.

3.3 Data sources and Data collection

This research is entirely based on the findings of the existing studies and secondary data collection methods has been used. Government publications and industry white papers are used in this context to gather valuable information. The existing studies which are used as the secondary data sources are collected from reputable online academic databases such as “Google Scholar, Emerald, Scopus, Springer, and Science Direct”. The entire data collection method is carried out in such a way that no bias decisions of the researcher are considered. As per the study of Mazhar *et al.*, (2021), data collection is one of the most crucial aspects of research since the findings can only be established after successful collection of data. Furthermore, the data collection method can be of two types which includes primary and secondary data collection.

The secondary data for research purposes can be extracted from both published and unpublished sources (Mazhar *et al.*, 2021). However, in this study, all the data is collected from only published, credible and authentic sources. Consequently, secondary data include that information which are already collected by other authors and have undergone statistical interpretation. Hence it can be said that the use of secondary data also provides statistical insights for the research (Mazhar *et al.*, 2021). The studies published in the last five years are only considered for the study to maintain relevance with the recent scenario of the use of artificial intelligence in the human resources management in pharmaceutical companies in India. The study of Namey *et al.*, (2022), reveals that inductive and deductive thematic analysis is carried out for data collected from secondary sources. Moreover, the secondary data collection method remains one of the most suitable techniques to gather valuable insights from existing literature and establish well developed findings for the study (Namey *et al.*, 2022).

3.4 Data Analysis Approach

Since this research is based on secondary data extracted from existing studies and reports, thematic analysis of the data is carried out. After the collection of the secondary data, themes have been developed based on the findings. The thematic data analysis provides a deeper understanding of the use of artificial intelligence in the human resources management practices within the pharmaceutical companies in India (Braun and Clarke, 2023). Furthermore, thematic analysis provides step by step processing of the secondary data to develop valuable insights. Moreover, thematic analysis involves familiarisation of data, coding, development of themes and finally interpretation (Jowsey *et al.*, 2021). The development of various themes and patterns helps to analyse how the use of artificial intelligence influences the human resources management practices in the Indian pharmaceutical companies. Jowsey *et al.*, (2021) states that thematic analysis is quite a popular method for systematically analysing data from secondary sources. This is because thematic analysis provides a deeper understanding of the matter as the readers are able to delve into each of the aspects through the help of insightful themes. Hence the research becomes more impactful with the use of themes.

Moreover, thematic analysis does not need to test any kind of predetermined hypotheses (Jowsey *et al.*, 2021). The first step of the thematic analysis method, i.e., the data collected from the secondary sources are thoroughly read multiple times and then the formal coding process is carried out. The codes are grouped into broader themes which are linked back to the research objectives so that relevance of the study can be maintained. The study of Jnanathapaswi, (2021) states that thematic analysis allows the researcher to introspect a wide variety of data which is collected under different circumstances and at different times. Consequently, the concepts which are drawn from the themes provide valuable insights for the current study and the merits and demerits of adoption of artificial intelligence in the human resources management in the Indian pharmaceutical companies can be well understood (Jnanathapaswi, 2021). On the other hand, Braun and Clarke, (2023), states that thematic analysis allows the researcher to interrogate the various aspects of the topic and develop critical insights which can be quite impactful for future research.

3.5 Ethical Considerations

This qualitative research on the influence of artificial intelligence in the human resources management practices in the Indian pharmaceutical companies is carried out with utmost

ethical and academic integrity. The findings of the existing studies are interpreted rather than mere “copy paste” of the original findings of the already published literature. The confidentiality and the neutrality of the researcher is also ensured and distortion of the collected data is not encouraged for this study (Nii Laryeafio and Ogbewe, 2023). The intellectual property rights of the authors and their literature is ensured through proper references mentioned in the current study. The study of Nii Laryeafio and Ogbewe, (2023), highlights the fact that misuse of the original finishes is a common thing which hampers the ethical standards of secondary qualitative studies. However, this current study ensures that proper references of the existing literature are given throughout the study to maintain the ethical standards and academic integrity. Furthermore, as per the study of Taquette *et al.*, (2022), the adherence to the ethical standards is a crucial aspect of the secondary qualitative studies.

3.6 Research Limitations

The study of Cheong *et al.*, (2023), highlights that the secondary qualitative studies often suffer from various kinds of limitations such as restricted to pre-conceived notions and lesser relevance to current scenario. This research becomes quite restricted as the firsthand insights and the perspectives of the HR professionals working in the pharma industry in India are not collected. Thus, it is well understood that the lack of the primary data hampers the credibility of the current study. The data collection for this study is also quite tough as the findings of many existing studies do not have adequate relevance to the concerned topic and hence cannot be included in the study (Cheong *et al.*, 2023). Thus, multiple screening of the collected data is required which makes the research more time consuming. One of the reasons for which many studies fail to associate with the research objectives of this study is that most of them focus on only the HRM practices and not on the adoption of artificial intelligence. The digital transformation of the human resources management practices within the pharmaceutical companies in India is only discussed in a limited number of studies (Taquette *et al.*, 2022). Furthermore, the pharmaceutical industry of India is one of the least researched areas. Thus, the availability of relevant studies is quite less, and the current research remains restricted to only a small perspective (Cheong *et al.*, 2023).

3.7 Chapter Summary

This chapter provides a methodological framework for the entire study undertaken to analyse the role of artificial intelligence in the human resource management in the pharmaceutical

companies in India. The research method used for this study is the secondary qualitative research method and thus involves the use of data collected from existing literature. This study is based on the interpretivism philosophy such that the human experiences of the HR managers can be reflected through subjective interpretation. Moreover, the inductive approach of this study enables the researcher to explore the various aspects related to the topic and develop suitable findings. The research design for this study is explanatory which allows the researchers to explain all the findings and provide insightful interpretations.

CHAPTER 4: RESULTS, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter represents the results, analysis and discussion of the study determining the role of the artificial intelligence in the human resource management within the pharmaceutical companies in India. Using the thematic analysis of the qualitative secondary data, this chapter finds important patterns and information related to the adoption of AI, adoption and its applications for HR practices. The findings are organized around important themes derived from the literature review and the research objectives that allow a structured adoption of the way AI influences recruitment, workforce management, strategic HR alignment, and organisational outcomes. In addition, the discussion also links the results with the existing theories and some empirical studies that highlights consistencies, contradictions, and contextual factors particular to the pharmaceutical sector in India.

4.2 Results

4.2.1 Thematic Analysis

Theme 1: AI-driven transformation of human resource management functions

The findings show that AI has massively transformed the important human resource management functions within the pharmaceutical companies in India. In recent times, AI technologies are embedded increasingly in the performance management, recruitment, learning and development as well as employee communication that shifts the overall HR practices from manual, administrative processes to the strategic and data driven operations (Kanade *et al.* 2025). The analysis also reveals that AI-based applicant tracking processes and resume-screening tools have improved the consistency, speed and the accuracy of the recruitment process. In addition, pharmaceutical companies are capable of handling large volumes of applications properly while enhancing candidate-job matching through the predictive algorithm, therefore minimizing time to hire and human error (Ahmed, 2024). Performance management has also faced some major transformation through the use of the AI-based dashboards and analytics. These tools help HR managers to monitor the productivity of the employee, engagement levels and the performance trends in real time. The findings recommend that these systems support more objective performance evaluations as well as allow proactive decision-making relevant to promotions, training needs, and succession planning.

Theme 2: Strategic value of AI in workforce planning and decision-making

The findings show that AI plays an important strategic role in decision-making and workforce planning within the pharmaceutical companies in India. AI-based workforce analytics helps organizations to move beyond the reactive HR practices towards the proactive and predictive management (Ali *et al.*, 2021). Through the analysis of the large datasets to the employee performance, turnover trends, skills availability and upcoming labour needs, AI systems support evidence-oriented workforce planning linked with the organizational objectives and the marketing needs. This indicates that predictive analytics is especially important to address workforce mobility and skill shortages towards the geographically depressed pharmaceutical operations. According to Yanamala (2024), AI tools assist HR leaders to forecast talent needs adhered to the research and development activities, regulatory timelines and manufacturing expansion. This strategic forecast helps organizations to optimize the workforce allocation, minimize operational risks and also ensure continuity in important roles.

Theme 3: Employee acceptance and adaptation to AI-enabled HR systems

Employee acceptance and adaptation is an important and powerful theme that continues to integrate the perception of the HR practices. The results indicate that acceptance is mainly determined by the factors of perceived usefulness, which is in the line with the Technology Acceptance Model. Many employees were found to be tolerant of AI-based recruitment solutions, performance analytics applications, and learning solutions (Bagis and Yulianeu, 2024). It would assist them in identifying their potential, reducing the work volume, and providing a chance of career growth via individualised channels. The AI-based recommendation systems do not just assist but also empower the employees in overcoming the complex international HR systems (Waris *et al.*, 2022). But not everyone in the industry is the same in relation to the adoption of AI. The degree of preparedness varies locally based on the demographic groups, job functions and cultural settings. Generally, younger and tech-savvy workers are more excited and adaptable towards the new technologies more appropriately compared with traditional employees (Barney *et al.*, 2021) . The emotional responses such as insecurity, fear of being automated makes the socio-technical character of AI deployment, where psychological comfort is as important as technical efficiency.

Theme 4: Ethical, privacy, and governance challenges of AI in HRM

Privacy and governance issues related to the use of AI in HR management reveals the increase of ethical governance. AI is able to provide high-quality analysis and make processes more efficient. However, the research mitigates its possible drawbacks in case of no reliable precautions being taken. Privacy issues are specifically pointed out as the main factor to deal with massive amounts of employee data. It includes not only performance and behaviour but also personal information of the employees in the organisation. Employees are concerned about being constantly monitored, having their data profiled, and the whole process of their data storage, analysis and even misuse being so uncertain (Sachan *et al.*, 2024). Concerns related to algorithmic bias and fairness came up significantly as well. powered recruitment and performance evaluation systems are trained on biased data; they can even amplify discrimination. The matter of transparency that concerns AI decision-making is pointed out by both employees and HR specialists. The lack of understanding regarding the reasons behind certain hiring, appraisal or promotion decisions leads to the erosion of trust. It is the practice of ethical Human Resources that calls for AI systems for communication strategies (Braun and Clarke, 2023).

Theme 5: Alignment of AI-enabled HRM with organisational performance and competitive advantage

The idea of AI-powered HRM is one of the most important factors giving rise to and supporting the competitive advantage and strategic performance, particularly in the case of big pharmaceutical companies operating in different countries. The use of AI not only results in the improvement of operational effectiveness but also the precision of decision-making and planning in terms of the workforce. It identifies the areas that require talent, control employee turnover, and create specific engagement plans for employees (Kayusi *et al.*, 2025). AI-enabled HRM plays a role in the better alignment of HR strategy with organisational goals. Instant workforce intelligence provided through AI, allows organisations to stay on top of global market changes. Additionally, AI is a great enhancer in the field of learning and development already contributing to the areas of building capabilities and innovation. Personalised learning platforms, AI-driven training simulations support global collaboration and leadership development (Camilleri, 2024). Such capabilities are crucial for pharmaceutical companies that are operating in international markets and competing on the basis of technology.

4.3 Analysis of Results

The analysis of the results synthesizes the overall findings from the thematic analysis and applies them in adherence to the objectives of the research and theoretical frameworks that underpinning this study. The 5 themes effectively describe that AI has a huge impact on the human resource management in the Indian pharmaceutical companies that influences operational practices, strategic links, employee behavior and the organizational outcomes. As per the words of Herrmann and Pfeiffer (2023), instead of functioning separately as a technological tool, AI has images as a socio-technical system which reshapes the HRM through the interactions between the technology, people as well as organizational structure. The transformation of the main HR functions describes the way AI improves accuracy, efficiency and stability towards the performance management, recruitment and learning and development (Del Barone *et al.*, 2025). These findings link with prior studies which position AI as a catalyst in terms of shifting HR from the administrative roles to the strategic partnership.

AI-based recruitment and performance analytics support better consistency and data-driven decision-making; thus, the analysis also shows the limitations of the algorithmic assessments to capture behavioral and contextual nuance (Dixit and Jatav, 2024). This recommends that while AI improves HR abilities, it cannot entirely replace the human judgment that reinforces the argument in terms of the hybrid HR models which adopt technological efficiency with managerial discretion. The strategic importance of AI in the workforce planning and its decision-making that enables the HR to become an important contributor to the organizational strategy (Ali and Rafi, 2024). Pharmaceutical firms can use predictive analytics and real-time dashboards to predict demands in skills and control recruitment pipelines and reduce risks tied to the workforce. This observation suggests the Resource-Based View that highlights the importance of the rare organizational capabilities in order to within organization attain competitive advantages. AI-based HR systems function as the strategic resources when they are embedded within the processes or the organization and also supported by human expertise (Desgourdes *et al.*, 2025).

Therefore, the results show that over-dependence on the data-based information without the contextual interpretation can lead to short term optimization at the expense of the long-term workforce sustainability. According to Do *et al.* (2025), employee adaptation and acceptance emerge as the important determinant of effectiveness of AI in the HRM. The findings ensure the relevance of the Technology Acceptance Model, especially the role of the perceived

usefulness to shape the employee attitude. Employees are more receptive to AI in terms of simplifying the risks, improves transparency and supports better career development.

Therefore, variations in acceptance towards age groups, job roles, and levels of digital literacy shows the impact of the technological change (Dzwigol, 2022). In that regard, the fear of being workforce-replaced and losing jobs is a weigh of resistance that underlines the psychological and emotional aspect of an AI adoption. This supports the perception that change in technology must be accompanied with an adequate communication, training and the management of the change in order to make the change effective. Privacy, ethical and governance issues also make the integration of AI in the HRM a complicated issue. As per the analysis, the apprehension of the misuse of data, surveillance, and even the prejudice of the algorithm destroys the acceptance and trust in the employee (Faqihi and Miah, 2023).

All these findings indicate both significant discussions about responsible AI and also present the need to make decisions transparently and the accountability mechanisms. In the absence of the clear or transparent governance frameworks, AI system risk reinforces existing inequalities as well as eroding fairness perceptions. This mainly underscores the significance of the human oversight and ethical protection to maintain legitimacy and trust in the AI-based practices. As per the words of Mollah *et al.* (2024), the adherence between the AI-based HRM and organizational performance describes that AI may continue to innovation, productivity and competitive advantages when adopted strategically.

Companies which linked AI initiatives with the business objectives and the organizational culture reported stronger performance outcomes (Fenwick *et al.*, 2024). This supports the Resource-Based View through adopting the way that AI improved HR abilities may become a source of sustained advantages when combined with the complementary human and organisational resources.

In addition, technology-based adoption limited the realization of potential of AI, recommending that strategic coherence is important for value creation (da Silva and Cardoso, 2025). The general overview of the analysis is that the AI in the HRM works in the interplay of technology, strategy, and human behaviour. AI gives enormous potential to strategic information and efficiency, yet its applicability depends on the acceptance of employees, ethical governance and organisational preparedness. The findings recommend that the pharmaceutical companies in India should take a balanced, human-based approach to AI

adoption, one that leverages the data-driven abilities while delivering trust, fairness, and employee engagement.

4.4 Discussion of Results

The results of this research indicate that Artificial Intelligence (AI) is not only changing Human Resource Management but also impacts the core of the HR functions. Theme 1 elaborates that the transformation caused by AI is not only about the automation of processes but also about the HR functions of recruitment, performance management, and engagement. The use of predictive analytics, AI-enabled recruitment platforms, and intelligent learning systems brings HR practices speed, objectivity, and consistency (Goswami *et al.*, 2023). Thus, the transformation reaffirms the view that AI improves the case of efficiency and standardisation of HR processes. However, the transformation is not uniform across the companies, it is subject to the firms' technological preparedness, the orientation of leadership and resource availability (Fenwick, 2024).

Theme 2 accentuates the tactical import of AI in the HR and decision-making departments with detailed insights into the dynamics of the workforce. Thus, it allows companies to predict the need for skills, control the risks of losing workers and back their decisions with the help of knowledge. AI does not merely confine the HR to a technical role but rather places it in the position of a strategic partner (Herrmann and Pfeiffer, 2023). It can lead the way in the competitive market and align the business with long-term strategic goals. The resource-based and strategic HRM perspectives are being supported with the human capital and leadership commitment (Yanamala, 2024). The study emphasises that AI is most effective when it is incorporated as a whole into the strategy, rather than utilized as separate tools.

The theme 3 depicts that user adoption is a major influencer of the AI's success. Employee groups have different opinions about the advantages AI can bring about in relieving their workloads. The degree of acceptance is different depending on factors such as age, position, tech skills and cultural context. It indicates that the adoption of AI is a challenge for human beings as much as it is for technology (Bagis, 2024). Firms that allocate resources to communication, openings, training and engaging implementation will reap the benefits of a smoother transition. This situation gives more strength to the socio-technical and change management viewpoints that highlights the importance of human readiness in tech transition.

Theme 4 discussed the ethical, privacy and governance issues that oppose the upsides of AI (Ikram and Kenayathulla, 2022).

The anxieties competing to the minds of the worker are those about the security of data, the impact on society by algorithms, and a lack of transparency about the decisions made by AI. However, organisations do not have structured AI governance frameworks, ethical audits, or agreement on responsibility. Additionally, theme 5 emphasises that AI-assisted HRM is a factor that leads to a company's success and greater market share with the strategic leadership. AI brings about agility, capability development and decision-making upgrades with innovation and competitiveness in the world of trade (Mahade, 2025). The use of AI for HRM is revolutionary for improving efficiency, and competitiveness. However, its power will depend on human control, human acceptance, ethical management and strategic alignment (Islam and Amin, 2022). Organisations that implement a balanced, human centered and governance driven approach will be more able to take the AI technology as a sustainable facilitator of excellence in international HR.

4.5 Chapter Summary

This chapter mainly represented as well as analysed the findings on the integration of AI in HRM within the pharmaceutical companies in India. Through thematic analysis, this study shows transformative roles of AI in HR functions, strategic workforce planning, employee acceptance, ethical considerations, and organisational performance. The findings also explain that although AI enhances strategic decisions and effectiveness, its entire efficacy is solely dependent on how employees perceive it, governance ethics, and organisational readiness. However, the chapter shows the need for a human-based, balanced approach to AI-based HRM in order to achieve sustainable organizational value.

CHAPTER 5: EVALUATION

5.1 Introduction

This chapter mainly evaluates the findings of the research presented in chapter 4 through interpreting their significance, meaning, relevance to the questions and objectives. Instead of a findings chapter that focused on representing and describing the results, this evaluation chapter aims to assess the way properly the findings address the aims of the study and, they adhere with the available academic literature. The chapter also highlights all the areas of convergence and divergence between the study outcomes and prior research, therefore improving the entire argument of the study.

5.2 Evaluation of Findings in Relation to Research Objectives

The primary objective of this research was to examine as well as analyze the important factors that influence the chosen research phenomena and to understand their implications within the selected context. The findings also described a strong adherence with the stated objectives of the study that indicates the analysis and data collection methods were reliable and effective. The results also represented that important variables determined in the research had a massive influence on the outcomes of this study. This suggests that the conceptual framework developed in the literature review was properly grounded and also suitable for the empirical investigation. The consistency between the objectives of the study and the actual findings improves the internal validity of the study and assures that the research effectively addresses its aims.

5.3 Linking Findings to the Literature Review

The major need of the evaluation chapter is to correlate the findings with the studies that have been reviewed before. The findings of this study are generally in line with the literature available in Chapter 2. These arguments are reaffirmed by the results of the current study as the findings offered empirical results proving the existence of a similar pattern. The results of this research indicate that outcome/variable is affected by situational or moderating variables. This contribution enriches the literature by bringing out the fact that the theories used to serve various settings need not always work in the same manner. Other results contrasted previous results. The variation could be ascribed to the difference in the context of research, sample

features or methods of approach which further stresses the need to have contextualised research.

5.4 Critical Evaluation of Key Themes

The thematic analysis revealed some of the strong themes that were described throughout the data. These themes represent practicality and theoretical constructs talked about in the literature. The robustness of this theme validates the theoretical views and indicates that organisations or stakeholders require giving importance to this factor to attain better results. This observation is consistent with the previous research, which identified barriers like a shortage of resources, knowledge gaps or organisational resistance. The analysis of this theme shows that though there are theoretical backgrounds that provide the ideal scenario, in reality, practical challenges may be faced. This revelation is a possible addition to the body of knowledge, because it implies a practice or perception change that needs further academic research.

Therefore, the analysis also shows the concerns related to over dependence on the algorithmic assessments that can overlook the behavioural, contextual, and interpersonal factors which are important in the evaluation of human performance. As per the words of Dixit and Jatav (2024), in learning and development, AI-based learning management processes have allowed personalized training pathways that tailored skill gaps, roles and competencies. This is especially important in the Indian pharmaceutical sector, where continuous upskilling is needed because of the rapid scientific advancements and the other regulatory changes. The findings represent that personalized learning improves the knowledge retention and employee engagement, while supporting organizational ability development. On the other hand, the analysis also indicates that higher automation in training can minimize mentorship opportunities and informal learning which are important for the development of leadership.

As a result, the HR functions act as the strategic partners in the organizational planning instead of the administrative units. In this context, decision-making processes have also improved through the AI-based dashboards which deliver real-time information into the workforce engagement and performance (Sultana, 2025). The findings recommended that these tools enhance the overall consistency and objectivity of HR decisions relevant to promotions, succession planning, and retention strategies. By determining high potential employees and predicting the attrition risks, AI supports a long-term workforce sustainability and leadership

development. Therefore, the analysis shows that strategic decisions taken from the AI outputs need effective adoption to avoid oversimplification of complex human behaviours.

An important aspect for adaptation is the training and organisational change initiatives, which are the mediators of acceptance. It is easier for organisations to put the effort into upskilling, awareness, and communications to go through the transition. AI is identified as a tool for the enhancement of decision-making and performance, not as a replacement for human expertise. However, the lack of clarity, poor communication, and non-participation during the execution raised resistance (Malik *et al.*, 2023). This shows clearly the functions of change management and adoption of the human centric AI integration. Another fact, related to acceptance as a high-power distance, is that employees do not develop resistance against AI, quite the opposite. However, in the case of more participants and open cultures, the employees have to be involved and kept informed about new updates. The workers interpret the situation, develop their own opinions rather than accept the AI technologies.

The governance matters are also important in the development of ethical frameworks and technological governance structures. Most organisations lack formal AI governance activities, ethical frameworks and accountability provisions. Among the effects of the lack of a universally recognized set of rules concerning AI usage, compliance management, and ethical assessment are the phenomenon of unequal implementation at the organizational level, in particular, among various departments. In the case of international operations, the variation in the legal frameworks, makes governance even more difficult. It includes European General Data Protection Regulation (GDPR) and other local data protection laws. The study points out the demand for rules of ethical AI, open communication plans, outsider checking of AI systems, and human involvement in important HR decisions (Camilleri, 2024). AI is going to serve as an auxiliary, not a substitute for human discretion. Along with an ethical, legal, fair, and stakeholder-friendly approach in AI governance, organizations will gain more trust and come up with sustainable HRM practices. However, AI-driven HRM will risk losing employee confidence unless the questions regarding ethics and governance are resolved.

However, the results also point out that strategic alignment depends on leadership commitment, investment capacity and organisational readiness. The organisation with strong digital infrastructure, visionary leadership and structured AI strategies have greater performance benefits. Also, lacking integration between AI tools and HR strategies change are the factors that weaken strategic outcomes in organisations. AI-enabled HRM increases organisational

agility, innovation capacity and global workforce integration when strategically aligned with broader organisational goals. Therefore, AI is a strategic enabler in organisations instead of just an operational tool.

Comparatively, AI in HRM of Indian pharmaceutical companies relies on the top management to lead the change and break the resistance to introduce the culture of data-driven business decisions into the company. Dynamic capabilities including data analytics and digital integration enhance the readiness of the organisations. According to Pesqueira and Sousa (2024), the use of big data analytics can expand dynamic capabilities which allows pharmaceutical companies to become more supportive of ESGs. Ma et al. (2022) shows that the digital transformation lets the market reach further, traceability and information exchange where all these factors contribute to the competitive positioning. It entails incorporation of quality, technology and people that are driven by the management. As Ahmed (2024) points out, quality in pharmaceuticals is an organisational activity. Therefore, pharmaceutical organisations with high managerial leadership and organisational preparedness are in a better position to use AI-based HRM while improving the workforce capacity and achieving long-term benefits of the market.

As an example, Sun Pharma has made investments in flexible work options and online interaction devices on the shopfloor and R&D professionals, aware of the differentiated well-being demands at the hierarchical tiers. Triantafyllidou and Koutroukis (2022) emphasise that participative HR practices strengthen the voice of the employees and their job satisfaction in multinational subsidiaries in the pharmaceutical industry. This is in line with Social Exchange Theory where employee well-being initiatives facilitate engagement through trust, commitment and sustained organisational performance. Desgourdes *et al.* (2024) caution that even autonomous work arrangements can easily undermine well-being in the event of a case of extreme laissez-faire style of leadership. Islam and Amin (2022) state that well-being is a part of maximising the human capital value and strategic leadership also improves job satisfaction and organisational resilience. Therefore, pharmaceutical firms that implement AI-based HR solutions with a high emphasis on staff performance, engagement and well-being can maintain the performance, innovation and long-term competitiveness.

The predictive models enable the HR professionals to proactively handle the skills gaps to reduce operational risk and enhance organisational resilience. Such developments are in line with the concept of strategic human resource management. AI is also an important tool to

promote diversity and inclusion. The smart candidate matching and sentiment analysis tool allow pharmaceutical companies to hire and manage employees based on the competencies. The use of sentiment analytics in employee communications can determine the trends of engagement, possible conflicts, or inefficiencies in collaboration (Saxena *et al.* 2023).

5.5 Implications of the Findings

The assessment of the results shows that there are some significant implications. Theoretically, the research proves major constructs presented in the literature, in addition to refuting simplified assumptions. The recommendations indicate that the current theories can be improved to incorporate the contextual issues and dynamic conditions. Practically, the implications of the outcomes give practical insights to practitioners. These findings can assist decision-makers in enhancing operational or strategic planning or policymaking. The assessment indicates that a limited perspective is inappropriate and it needs a comprehensive and combined method in order to attain sustainable results. In addition, the implications of the findings are relevant to future research work. The analysis shows that the literature is not evaluated sufficiently, especially when it comes to poorly researched variables and contextual factors. These are areas of gap that can be filled in through further empirical research based on alternative methodologies or using larger samples.

Artificial intelligence as a communication system, sentiment analysis and translators can be used to support multicultural teams, which is a major challenge in the case of the Indian pharmaceutical companies. Although these tools can be more inclusive and engaging, human judgement is still required to interpret AI-generated insights. Generally, the literature indicates that AI integration in the HRM functions can provide significant strategic value, though it should be governed cautiously with the consideration of technological efficiency and ethical responsibility and human-centred decision-making. Moreover, the HR managers can help to maintain intercultural harmony. Such strategies are especially applicable to Indian pharmaceutical firms which are based in various regions with differing cultural norms. The cultural dimensions theory by Hofstede is a valuable approach to workforce integrating and its specifics. In contrast the AI has a marked effect on the workforce management and integration in the Indian pharmaceutical companies and provides predictive insights.

5.6 Strengths and Limitations Reflected in the Evaluation

The process of evaluation also highlights various strengths of this study. The adherence between the objectives, findings and the literature describe methodological coherence. The use of effective analytical techniques also ensured that the data has been interpreted systematically and in a meaningful way. Therefore, some limitations should be acknowledged, and the findings are context-based and might not entirely generalisable to other settings. In addition, the dependence on the secondary data could have limited the overall depth of the information taken. These limitations do not undermine the value of this study thus must be considered when interpreting the findings.

5.7 Chapter Summary

In the summary, this chapter has evaluated critically the overall findings through linking them to the proposed objectives as well as existing literature. The evaluation also describes that the findings hugely support previous studies while also providing new information and contextual perspectives. Apart from that, this chapter also evaluated the overall interpretation of the findings that are also important in terms of gathering higher level understanding of this study.

By applying the results, this chapter also delivers a proper foundation for the final conclusions along with the recommendations represented in Chapter 6.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Summary of main findings

This paper was researching the application of artificial intelligence in human resource management of pharmaceutical firms in India, where the aim was to learn the impact of AI-based HR practices on workforce management, employee performance, and strategic orientation. The study employed the qualitative, interpretivist case study methodology through secondary data to synthesise the information contained in scholarly literature, organisational reports and other industry-specific evidence. The results indicate that artificial intelligence has turned out to be an empowering agent of HRM operations within Indian pharmaceutical organisations. The widespread uses of AI technologies are in the recruitment and selection process, the performance management approach, the workforce analytics, the educational and development process, and the employee engagement. The AI-based recruitment systems are more efficient and efficient in terms of time and cost because they offer enhanced efficiency in terms of job-fit accuracy, candidate screening and time-to-hire. Likewise, performance management tools that utilize the AI give instant insights into employee productivity, engagement rates and leadership potential, allowing more objective and data driven HR decisions.

The other important conclusion is associated with the use of AI in strategic workforce planning and skill building. Predictive analytics will enable HR managers to predict talent needs, talent gaps, and match training programs with organisational and regulatory needs. The AI-based learning systems in the Indian pharmaceutical industry facilitate the continuous professional growth and organisational stability in the Indian pharmaceutical industry, where fast innovation and adherence to regulatory standards and scientific complexity are the major features. Nevertheless, the paper also presents the essential issues and limitations concerning AI implementation in HRM. The cost of implementation, the complexity of the technology and the risk of privacy of data as well as ethical concerns regarding the bias in the algorithms continue to be a barrier. The feeling of job insecurity and less human interaction also contribute to acceptance and trust of the AI-based HR systems by the employees. Such results imply that although AI enhances the effectiveness of operations, it is subject to success only with clear ruling, ethical supervision and change management.

6.2 Conclusion based on the research objectives

The initial research objective explored the use of artificial intelligence in the management of human resources in pharmaceutical organizations in India. The research finds that integration of AI is multidimensional and broad based since it does not only aim to automate but also to aid strategic HR functions. The AI is also integrated throughout the recruitment, performance assessment, learning and development and workforce analytics which allow efficiency, standardisation and informed decisions. Therefore, AI can be discussed as not only a technological improvement but a structural element of the contemporary HRM within the pharmaceutical industry. The second research objective was to explore the effect of AI on the management of workforce and outcomes pertaining to employees. The results show that AI can have a positive impact on workforce planning, talent provision and performance management as it offers predictive and individual insights. Simultaneously, the level of trust, acceptance and fairness in the employees have found to be paramount in ensuring a successful implementation of AI. The paper has concluded that the effect of AI on employees is contingent and depends on the ethical governance, transparency and organizational culture.

The third research objective was about the use of AI in facilitating strategic HRM alignment and organizational performance. The research concludes that AI is a strategic enabler that leads to alignment of human capital decision-making with organizational goals, innovation strategy and regulatory requirements. HR analytics based on AI improve organizational agility and competitiveness in a volatile pharmaceutical setting. Nevertheless, strategic alignment is the most effective in cases when AI capabilities are supported by human judgement, cultural sensitivity and responsible leadership.

6.3 Recommendation (Practical and Theoretical)

The initial practical recommendation is that human-AI cooperation models should be adopted instead of complete automation. HR leaders should present AI as a decision support system that will support professional judgement but not replace it. To illustrate the point, AI-based recruitment screening must never be left without human oversight to avoid algorithmic bias and have a chance of understanding the qualities of the candidates in a particular situation. In the same way, performance analytics should be understood in connection with behaviour and organisational culture indicators. Second, pharmaceutical companies must establish formal AI governance systems, with data privacy and consent policies, algorithm transparency and ethical

employee use policies. To create such conditions, it is possible to establish multidisciplinary governance committees. Third, organisations need to invest in digital literacy and capacity building. Data interpretation, AI ethics, and technology management are the areas that HR professionals should train to help them integrate AI tools in workforce planning, learning, and performance systems. Similar investment in strong digital infrastructure should be made to make the system reliable and secure. Fourth, implementation of AI should be linked explicitly to strategic workforce goals such as talent retention, prepared to comply with regulations and the ability to innovate. It is suggested to carry out pilot testing and phased rollouts to minimise the resistance and facilitate the ongoing learning.

Theoretically, the research supports the importance of the combination of the Technology Acceptance Model (TAM) with the Resource-Based View (RBV) and the Cultural Dimensions Theory. The way such frameworks are applied in the future should think of AI as a technology, but rather as a strategic potential, formed through cultural, ethical, data quality, and leadership orientation. Trust and perceived fairness can be implemented as an extension of TAM because they play a significant role in employee approval of AI-mediated HR practices. RBV should value AI capability as dynamic whereby there are some human competencies that are required to build long term advantage. The cultural theory is vital to the insights on variations in the acceptance of AI across regions and hierarchical organisations.

6.4 Limitations of Research

There are a number of limitations associated with this study, which can be addressed in the interpretation of the findings. First, it uses primarily secondary qualitative data, which limits the possibility of reflecting the current dynamics in an organisation, informal organisational practices, or secret strategic considerations related to AI implementation. Lack of primary interviews or surveys constrains the first-hand experience of the perspective of the HR and employees. Second, the case study concentrating on Indian pharmaceutical firms increases the contextual depth of the generalisation to other industries or different countries with varying regulatory frameworks, technology levels, as well as cultural norms.

Third, the study generalises the evidence through the different periods and sources, and this could denote the variation in the methodological rigour, sample features, and technological developments. Lastly, current AI tools and policies are rapidly growing, which implies that certain insights can change as time progresses, which presents time constraints. In spite of these

limitations, the theory-based integration and systematic synthesis can neatly give context-supersensitive conclusions.

6.5 Recommendation for Future Work

The gaps highlighted in this study should be filled through further research on AI-enabled HRM to gain a better comprehension of the topic. It is also anticipated that the use of mixed-method designs, a combination of large-scale surveys and qualitative interviews or ethnography, is one direction to follow. These designs would allow triangulating between quantifiable organisational outcomes and the subtle and experienced life of employees engaging with AI systems. This is particularly significant about the perception of fairness, trust and psychological safety. Second, longitudinal aspects that have followed AI implementation should be investigated in future research. The processes of organisational culture adaptation, algorithm development, and whether the initial efficiency benefits can result in sustainable competitive advantage can be established through long-term observation. The longitudinal case studies of pharmaceutical companies that shifted their pilot adoption of AI to enterprise integration would provide useful evidence. Third, the ethical and regulatory aspects should be examined more specifically by scholars. Regional comparisons in India or India versus other developing markets may reveal the extent to which differences in labour regulation, data regulation and cultural anticipations affect AI adoption and performance. There is also a need to research the negative impacts of algorithmic decision-making, such as the possibility of bias during recruitment, promotion, or performance appraisal.

Fourth, future research can be dedicated to the development of employee capabilities in AI-mediated workplaces. These questions as how data-analytic skills are developed by HR professionals, what training models are most effective in achieving AI literacy, and how leadership approaches impact AI preparedness, are worth consideration. The analysis of AI-powered learning systems in pharmaceutical companies would help to understand whether the personalised training enhances the growth of skills. Fifth, theoretical frameworks need to be improved. It would be more explanatory to expand TAM to include other constructs, such as perceived transparency, algorithmic fairness, and organisational trust, in AI-HR settings. Similarly, AI might be further developed within the framework of RBV by defining the concept as a dynamic capability that is conditioned on the basis of learning routines, governance processes, and cross-functional teamwork. Institutional theory integration can also be used to

understand differences in the AI adoption that might be brought about by regulatory, normative, and cultural pressures.

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